PLANNING & PROGRAMMING DIVISION
PLANNING RESEARCH SECTION
TRAFFIC ANALYSIS UNIT

TAU 3223

T.H. 10

S.P. 7102 - 37 and S.P. 7102 - 38

Elk River to Big Lake

Prepared: August, 1963

MINNESOTA HIGHWAY DEPARTMENT

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

Highway

T. S. Thompson

August 15, 1963

Johan Nygaard

T.H. 10, S.P. 7102-37 and S.P. 7102-38,
Elk River to Big Lake

This report is submitted in response to your July 19, 1963 request for 1983 traffic data for the project location shown on the map on page 2.

For each segment numbered on the map on page 3, the following data are tabulated on the form on page 4:

a) Vehicle Type Distribution
b) Total ADT
c) Total Heavy Commercial ADT
d) Total DHV Without Directional Distribution
e) Directional Distribution of DHV

Basic data, method and assumptions required to prepare the 1983 traffic estimates are presented on pages 5 and 6.

This traffic request was initiated by F. L. Baker for K. V. Pearson.

JN:go
K.H.

T.H.25
To Monticello

Big Lake

← 9380 →

1442+~~07.1~~ 50

1465+17 ← 70 → ← 110 → Co. Rd. 43

← 8980 →

1531+33 ← 10 → ← 10 → Twp Rd.

← 8960 →

Proposed Limits of Resurfacing Construction Plans
2.37 Miles

1571+69
~~1567+05.1~~

← 10 → ← 10 → Twp Rd.
1571+11

1628+67.5
~~1606+45.2~~

← 8980 →

C.S.A.H. 14 ← 120 → ← 130 → C.S.A.H. 15
1661+40

N.P.Ry.
G.N.Ry.

T.H.

All Stationing on We

Proposed Limits of
3.50 ~~4.03~~

SP 7102-37
AJ 31-238

File No. S24-33

SP 7102-38

T.H. 10
S.P. 7102-37, 7102-38
Elk River to Big Lake

Legend
Segment Number 1
1983 ADT..... 9380

LEGEND

9"-7"-9"-4'-22' CONC. PAVE. INPL. (1946

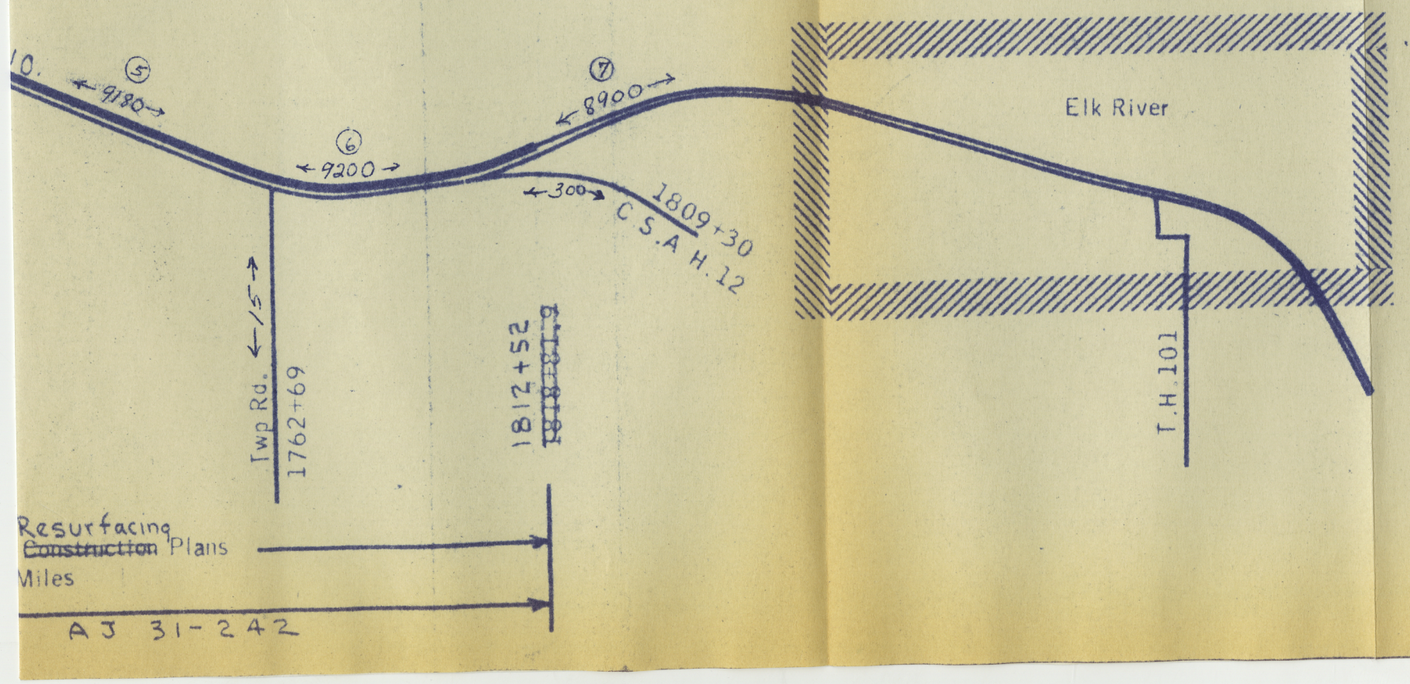
18' CONC. PAVE. OR BIT. CONN. INPL. (1921

st Bound Lane

1604+47

EQ. 1789+53.0= 1788+97.5

1858+16.4



2985

TRAFFIC ESTIMATE DATA

Design Year 1983 Part 1 of 1

FOR

T.H. 10 S.P. 7102-37, 7102-38 Length — Miles

County Sherburne Location Elk River to Big Lake

BASED ON

1983 ADT From Traffic Analysis Unit

SHOWING

Total ADT on Segments 1 Through 7 As

Defined on Attached Index Map

VEHICLE * TYPE	Segment Number										
	1	2	3	4	5	6	7				
0	8278	7900	7881	7900	8090	8109	7824				
1	200	190	190	190	194	195	189				
2	94	90	90	90	92	92	89				
3	142	140	140	140	141	141	140				
4	242	240	240	240	241	241	240				
5	310	310	310	310	310	310	310				
6	114	110	109	110	112	112	108				
Total ADT	9380	8980	8960	8980	9180	9200	8900				
Total H. Comm. ADT	1102	1080	1079	1080	1090	1091	1076				
Total DHV	1594	1527	1523	1527	1561	1564	1513				
Directional Distribution	60-40	60-40	60-40	60-40	60-40	60-40	60-40				

* Vehicle Type Code

0 = Passenger cars and 4 tire trucks
1 = Single unit - 2 axle - 6 tire trucks
2 = Single unit - 3 axle trucks
3 = Tractor-truck or semi-trailer - 3 axles
4 = Tractor-truck or semi-trailer - 4 axles
5 = Tractor-truck or semi-trailer - 5 axles
6 = Buses and trucks with trailer

Basic Data, Method and Assumptions

Traffic data used to determine the 1983 traffic estimate are as follows:

1) The past 11 years ADT volumes for the project.
2) The 1960 St. Cloud Traffic Survey Report showing:
   a) 16-hour vehicle classification count on an August weekday on T.H. 10 south of T.H. 23.
   b) Trip desire lines of 24-hour August weekday travel contacting T.H. 10 south of T.H. 23.
3) Continuous traffic counts recorded for:
   a) T.H. 10 between Anoka and Elk River.
   b) T.H. 169 south of Onamia.
4) Hourly machine counts recorded for the project summer weekdays in 1962.

The classification count and the desire lines by vehicle type in the 1960 St. Cloud Traffic Survey were studied for the origin-destination station on T.H. 10 just south of T.H. 23.

Assuming the travel for T.H. 10 just south of T.H. 23 is essentially the residual of the travel on T.H. 10 southeast of Elk River and T.H. 169 north of Elk River, seasonal trends by vehicle types were calculated for this residual. The trends were applied to the desire lines by vehicle type for T.H. 10 south of T.H. 23 to convert them to 1960 ADT.

Again assuming the residual characteristic for the travel on the project section of T.H. 10, least squares projections were made for these residuals by vehicle type. The projections were used to convert the 1960 vehicle type desire line ADT to attendant data for 1983. Then the 1983 desire lines by vehicle type were routed by travel time advantage to T.H. 10 and competing T.H. 94

Basic Data, Method and Assumptions (con't.)

The DHV and its directional distribution are based on the relationship of hourly counts recorded for the project to residual quantities observed in the continuous counts recorded for T.H. 10 S.E. of Elk River and T.H. 169 at Onamia.

The 1983 ADT of 8900 for segment 7 reflects 4600 diversions to T.H. 94. Based on a least squares projection of its past 15 years ADT, normal growth for segment 7 would reach 13,500 vehicles a day in 1983, or 74 percent more than its 1962 ADT of 7750.

This traffic estimate reflects TH 101 built to expressway standards between TH 10 and TH 94.